Stockholm Resilience Centre

Co-Chairs' Summary Report

The African Dialogue on The World In 2050

Kigali, Rwanda: 28 – 29 August 2017

SwedBio
A programme at Stockholm Resilience Centre

THE SUSTAINABLE DEVELOPMENT GOALS CENTER FOR AFRICA

I: Introduction – What pathways lead to a sustainable, resilient world in 2050?

IN AUGUST 2017, the African Dialogue on The World In 2050 brought together representatives of governments, the private sector, academic institutes, civil society, UN and other international organizations and other policy-influencers. Participants explored sustainable development pathways under the theme:

> How can agriculture contribute to meeting the UN Sustainable Development Goals (SDGs) in the context of social-ecological resilience and the conservation and sustainable use of agro-biodiversity in Africa?

The theme contextualizes agro-biodiversity and farming systems in Africa for transformations to sustainable development. Agricultural practices are tightly linked to social and ecological resilience and well-being. Agriculture employs 60% of the African work force, and over 60 % of the African population live in rural areas[1]. In addition, agriculture, land use change and deforestation are the largest sources of Africa's combined emissions of greenhouse gases. This puts agriculture, food systems, and the ecosystem processes that sustain societies at the core of delivering on the SDGs in Africa.

Global change sciences can provide forward-looking perspectives by integrating social and ecological aspects of sustainability. The Sustainable Development Goals (SDGs) set universal targets to be achieved by 2030, and give the world a shared opportunity to shift onto pathways for long-term sustainability. *The World in 2050* (TWI2050) is an international initiative bringing sustainability science and

policy together, to explore transformation pathways to attain the SDGs within planetary boundaries.

The African Dialogue has generated a better shared understanding of links between agriculture, economic development, social and cultural wellbeing, biodiversity and ecosystem services, informing TWI2050's scientific analysis of pathways for global sustainability (*Box 1*), and strengthening Africa's science/policy networks for sustainable development.

1 Brahmbhatt, M, Bishop R, Zhao, X, Lemma, A, Granoff, I, Godfrey, N, and te Velde, DW, 2016. *Africa's New Climate Economy: Economic Transformation and Social and Environmental Change.* New Climate Economy and Overseas Development Institute. http://newclimateeconomy.report/workingpapers

Dialogue Co-Chairs:
Belay Begashaw, Director General, Sustainable Development Goals Centre for Africa
Johan Rockström, Executive Director, Stockholm Resilience Centre at Stockholm University

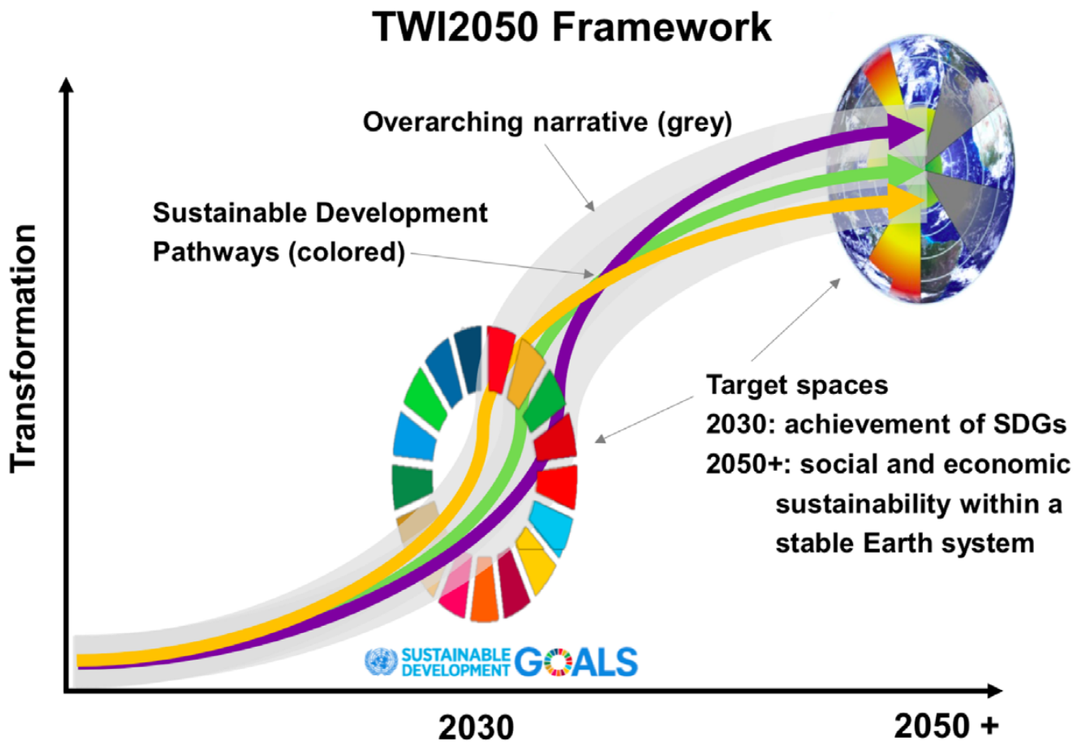

Figure 1: The TWI2050 Framework – Sustainable Development Pathways (shown as multi-colored curves) are needed that demonstrate how to meet the complex challenge of achieving SDGs (the 2030 target space) within the Planetary Boundaries (the target space for 2050 and beyond). Image: TWI2050 Secretariat.

Box 1: Social-ecological resilience within Earth's safe operating space

RESILIENCE is the long-term capacity of a system to deal with change and continue to develop. For an ecosystem such as a forest, this can involve dealing with storms, fires and pollution, while for a society it involves an ability to deal with political uncertainty or natural disasters in a way that is sustainable in the long-term. "Social-ecological resilience" emphasizes the perspective of complex, integrated systems in which humans are part of nature.

The **PLANETARY BOUNDARIES** framework for global sustainability defines a resilient "safe operating space" for humanity by proposing precautionary constraints on environmental processes that are critically affected by the activities of the world's societies. In addition to global-level boundaries for climate change and biodiversity loss, cornerstone issues in international sustainability policy, the planetary boundaries framework includes biogeochemical flows (altered nitrogen and phosphorus cycles), chemical pollution, freshwater consumption, land-use change, ocean acidification, stratospheric ozone depletion, and atmospheric aerosol loading. As pressure increases globally on these environmental processes, risks of large-scale, possibly abrupt and irreversible changes also increase.

SUSTAINABLE DEVELOPMENT PATHWAYS (SDP) are descriptions of how to reach the SDGs within the Planetary Boundaries. In the TWI2050 initiative (Figure 1), scientists from around the world are characterizing two global Target Spaces – the situation in 2030 when all SDGs are achieved, and in 2050 and beyond when the planetary boundaries are no longer transgressed. These target spaces will support integrated multi-sector modelling and policy analysis at levels from national to global. Within an overarching narrative of what is required to arrive at global sustainability by 2050, the SDP will combine qualitative and quantitative information about the choices, synergies and trade-offs involved in multiple alternative routes that will lead to a sustainable development. All the information, assumptions and models behind the target spaces and SDPs are being documented in a transparent matter and will be available in public domain on the TWI2050 website.

For more information:

- *What is Resilience?* www.stockholmresilience.org/research/research-news/2015-02-19-what-is-resilience.html
- *Planetary Boundaries: Guiding human development on a changing planet.* W. Steffen et al. 2015, Science 347:6223 http://science.sciencemag.org/content/early/2015/01/14/science.1259855
- *Planetary boundaries: exploring the safe operating space for humanity.* J. Rockström et al. 2009, Ecology and Society 14(2):32. http://www.ecologyandsociety.org/vol14/iss2/art32
- *The World In 2050 (TWI2050)* http://twi2050.org

II: Messages from the Dialogue

1. **THE WORLD IN 2050 IS BEING SHAPED NOW.** The challenge of eradicating hunger, transitioning to sustainable food systems and healthy diets in Africa and ensuring that SDGs are met within the planetary boundaries - lies in our hands. Systemic, long-term perspectives are needed to ensure that activities synergize.
2. **AFRICA PLAYS A KEY ROLE IN SHAPING** the world's sustainable development to 2050 and beyond. Signing declarations and treaties signals the will to action, but it is the actual implementation, especially in developing economies, that shapes the world.
3. **SUSTAINABLY ERADICATING HUNGER AND ATTAINING RESILIENT FOOD SECURITY IN AFRICA REQUIRES A FLOURISHING NATURAL ENVIRONMENT.** Good nutrition goes hand in hand with diversified foods from diversified crops. Governments should promote healthy and nutritious diets through diversification of food crops. Agricultural practices need not compromise with the regenerative capacity of the biosphere. Maintaining the variety of life and the quality of soils underpins the agricultural sector for the long term, which in turn shapes human well-being.
4. **AFRICA'S RICH AGRO-BIODIVERSITY MUST BE VALUED AND MAINTAINED TO BUILD RESILIENT FOOD SYSTEMS.** Governments should formulate and operationalize land planning and other agri-policies that support ecosystem services, and balance the prevailing input-dependent monocrop model with policies that support seed and livestock diversification and organic farming methods.
5. **EMPOWERING WOMEN FARMERS' YIELD BENEFITS FOR FOOD SECURITY AND SUSTAINABLE LIVELIHOODS.** Rural women make a critical but under-recognized contribution to Africa's agriculture. Policies to close the gender gap in rights, political participation, and ownership of land and other assets brings benefits to countries and communities as well as households.
6. **AFRICAN CULTURAL VALUES FOR FOOD AND AGRICULTURE NEED REVIVING IN COMMUNITIES, AND RECOGNITION AND PROTECTION IN POLICY.** The relationship that Africans have with their land and food systems is the bedrock for building a better future. Agriculture has been practiced in Africa for thousands of years. Food is more than commodity for most Africa countries. Its deeper cultural value confers much needed social-ecological resilience, and can also contribute to biodiversity and adaptation to climate change.
7. **LIVELIHOODS IN THE AGRICULTURAL SECTOR AND RURAL AREAS NEED TO BE SEEN AS ATTRACTIVE.** Fragmentation of communities, demographic and economic pressures, and degradation of natural resources have reduced the attractiveness of rural areas. This perception is particularly prevalent among the youth, and risks causing a sector-specific brain drain that harms the sustainability and effectiveness of the agricultural sector at large. Incentives and policies to retain youth and increase women's participation in agribusiness may counteract this development.
8. **INSIGHTS FROM SCIENCE AND TECHNOLOGY OUGHT TO BE COMBINED WITH KNOWLEDGE FROM LOCAL COMMUNITIES.** Traditional, indigenous and local knowledge enrich agricultural practices by adding place-specific knowledge and awareness of diversity of circumstances. To nurture and utilize this knowledge, policies and governance systems need to be formulated in a context-aware manner.
9. **POLICIES NEED TO RECOGNIZE AND NAVIGATE CROSS-SCALE SOCIAL-ECOLOGICAL COMPLEXITY.** Resilience focuses on change and stability, in social and ecological systems ranging from communities up to the global scale. Managing change in either social or ecological systems depends on understanding how these systems interact, because actions in one domain often have unintended and sometimes unexpected consequences in the other. Policies focused on global priorities, such as climate, need to consider effects on local realities in order not to jeopardize implementation of other SDGs. It is vital to acknowledge the multiple roles, functions and impacts of agriculture for social-ecological resilience and well-being.
10. **AGRICULTURE IS KEY TO ACHIEVING SDG #16, AND VICE VERSA.** Successfully achieving the SDGs hinges on strong and accountable institutions, inclusive and effective decision-making processes, and societal equality and equity. Ensuring resilient agriculture and agro-biodiversity in Africa both builds and depends on stronger communities that can participate more actively in sustainable development.

III: Setting the Scene – African perspectives for a sustainable future

SETTING THE SCENE and introducing the context, Dr. Belay Begashaw, the Director of the SDG Center for Africa, explained why the African Dialogue on The World In 2050 was held in Kigali. He argued in his opening remark that the overarching goals of the 2030 Agenda and the Paris Climate Agreement may be technically feasible, but that there is a pressing need to define and evaluate actual pathways for action, starting now, that will achieve sustainability in 2050 and beyond. Ms. Maria Schultz, Director of SwedBio at the Stockholm Resilience Centre, underlined the importance of acquiring African perspectives to enrich the global science/policy initiative The World in 2050. Voices from Africa need to be heard within the initiative, which aims to align sustainability science and policy processes for "the world". Without worldwide diversity of voices, there is a risk that both the research and its policy suggestions will have unrealistic uniformity. Such uniformity may impede people from relating to the initiative's messages, and hinder the implementation of its conclusions.

Turning to the Dialogue's theme, Dr. Begashaw argued that there is a mismatch between agricultural development policies set on a macro-level and the actual implementation at the micro-level. To bridge the mismatch, there is a need for policy makers to comprehend the conditions faced by small-scale farmers. Dr. Patrick Kormawa, FAO Sub-regional Coordinator for Eastern Africa, highlighted that the rapid population increase and demographic changes that are taking place in Africa risk creating food crises that could underpin social conflicts. He argued for the need to implement African Union's Agenda 2063 and the Malabo Declaration on Agriculture and Postharvest Losses. Representing the national policy context, Dr. Mark Bagabe, Director General, Rwanda Agricultural Board, outlined how the Rwandan government is working to align its national development strategies with the 2030 Agenda.

Prof. Johan Rockström, Director of the Stockholm Resilience Centre, concluded the session by setting the Dialogue in the context of the *The World In 2050*. The initiative brings together the scientific community involved in integrated assessment modelling, scenarios and analyses of pathway to attain sustainable development around the world, to analyze global sustainable development pathways that can enable the world to meet the SDGs on a stable and resilient planet [within planetary boundaries]. He explained that the Planetary Boundaries define a safe operating space for humanity, setting the solutions space within which the 2030 Agenda and its SDGs are to be implemented. There is a need to assess which transformational and equitable pathways actually manage to deliver on the SDGs within these environmental guardrails. The African Dialogue serves as the first regional dialogue exploring how these pathways may be shaped.

IV: The Discussion Groups

THE DIALOGUE was structured around three sub-themes, covering the scope of all 17 SDGs (*Figure 2*). Participants selected the theme where their expertise best contributed, allocating a major part of their discussion time to that theme. The discussion groups rotated through all three sub-themes, so that all participants could also contribute to the discussion of all three themes, giving multidisciplinary, inter-professional and international perspectives on the issues.

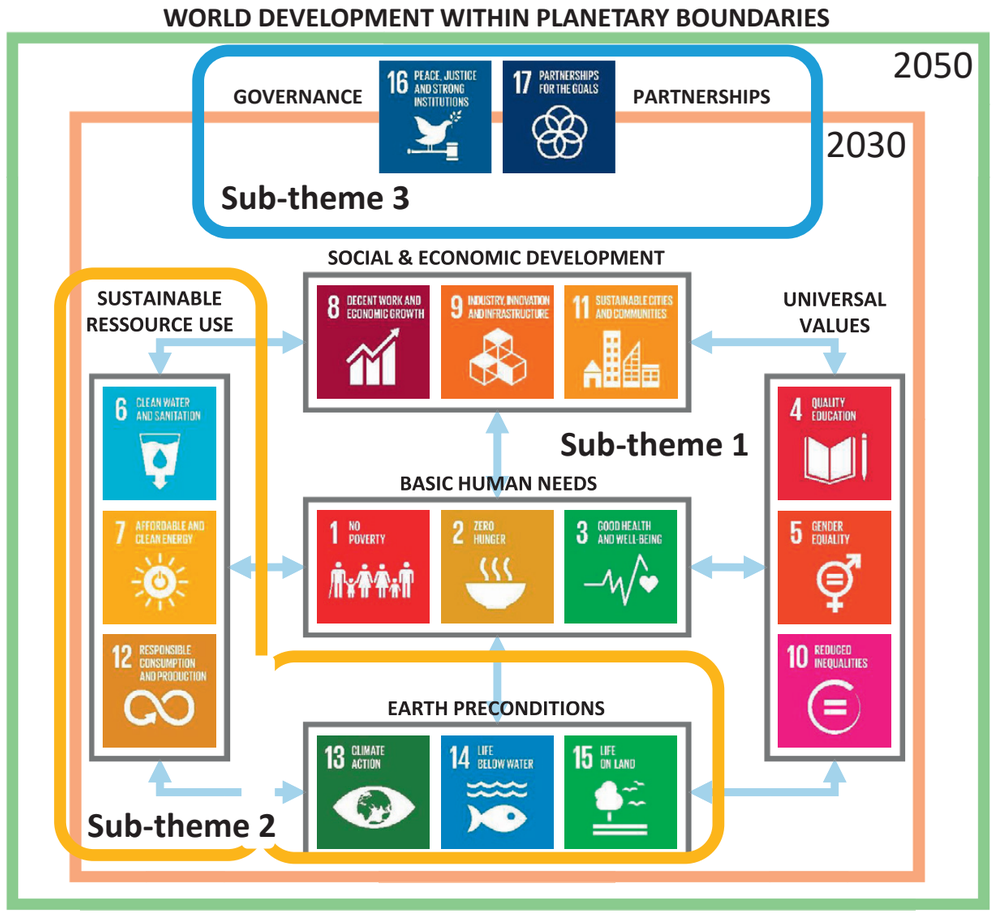

Figure 2: The Dialogue was structured around three Sub-themes: (1) Values, social-economic development and basic human needs (denoted by the dark green box); (2) The resilience of Africa's life-supporting systems (in the yellow box) and (3) Governance of socially inclusive, resilient agriculture (in purple at top). Jointly, the sub-themes shed light on the different aspects and roles of agriculture for pathways to sustainable development.

Each of the discussion groups was given the task of describing the current situation, its challenges and opportunities; characterizing the business-as-usual scenario if current trends continue; describing the desired scenario for 2050 where SDGs are met; and proposing key transformative steps for a sustainable pathway (*Figure 3*).

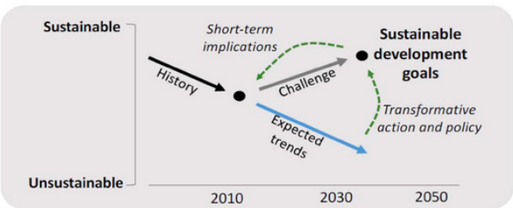

Figure 3: The trend pathway shows possible outcomes if policies are not strengthened. Challenge pathways explore how to achieve the SDGs, continuing into the future within planetary boundaries. Image and approach developed by PBL Netherlands Environmental Assessment Agency (PBL 2012)

Sub-theme 1: Values and Social-Ecological Resilience

Sustainable Development Goals 1-5, 8-11

Participants observed that current economic development is unsustainable. They argued that there is a need for a development trajectory grounded in the appreciation of the community and humanist values familiar to the African context. Such inter-generational African values have been eroded by modernity and the prevalent consumerist development that does not sufficiently consider human well-being.

Furthermore, participants claimed that current urbanization trends risk destroying farmers' livelihoods and stimulate deforestation, displacement and flooding. If well planned, however, urbanization can provide people with possibilities, relieve rural lands from over-population and enable food diversification through the education of urban citizens.

To counteract the negatives of this current development, poverty needs to be appropriately defined as it is not only about money but about self-perception, social support, skillsets, etc. Participants also raised that a balance between tradition and modernity can ensure the preservation of constructive local values and culture while adhering to the needs of the growing population. To avoid losses of important expertise, indigenous knowledge needs to be documented. The social fabric of traditional life and indigenous knowledge should be valued and constructive African elements of development strengthened.

Sub-theme 2: The Resilience of Africa's Life-Support Systems

Sustainable Development Goals 6-7, 12-15

To promote the conservation and sustainable use of agro-biodiversity in Africa, there is a need for increased understanding and appreciation of prevalent ecosystem services generated by biodiversity that contribute to food production. Current unsustainable agricultural development is to a large extent caused by the promotion of intensive monoculture practices, and the lack of long-term priority setting in policy processes that recognize and promote the maintenance of soil quality.

Practices such as regional and country-level ecosystem mapping and the inclusion of stakeholders all along the value chains can promote a shift from a collision course to a coalition course of action. Sustainable agriculture in Africa would also benefit from more inclusive policy processes. In particular, including young people in decision-making throughout the value chain could counteract the negative consequences of today's aging farming communities. Indicators suggest that the biodiversity conservation narrative is harmonizing with agriculture and sustainable development objectives in such a way.

Sub-theme 3: Policy and Governance of Socially Inclusive and Resilient Agriculture

Sustainable Development Goals 16, 17

The participants acknowledged obstacles to p

The participants acknowledged obstacles to policies promoting sustainable agriculture, with a key challenge lying in that most value-adding in food systems takes place outside Africa. The continent is sometimes seen as only a resource base that needs to be tapped, without recognizing its human potential. Farmers, especially women and youth, have challenges to get granted land ownership rights which risks hindering long-term decision making on the farm level. Also, there is a lack of governmental support for farmers and the agricultural sector. Participants argued that skewed structural adjustment programs predominant in the 1980s have hampered a sustainable development.

The potential for a desired development lies in the ample resources that are not being fully utilized. This includes the large and growing young population and available land. Another underutilized resource is the knowledge and networks of the vast diasporas. Civil society organizations and other networks can promote the sustainable use of ecosystem services and stimulate trust and social conventions supportive of farmers rights.

A transformation of African food systems needs to be context-aware and focus on improved knowledge management systems including agricultural extension systems and integrated governance. The latter incorporates inter-ministerial and multi-stakeholder plans being developed and implemented.

V: *Concluding reflections*

THE AFRICAN DIALOGUE IN KIGALI provided a platform to discuss and exchange views on the place of African agriculture and biodiversity and the importance of social-ecological resilience in future development. It brought a unique richness of perspectives and deep expertise across the domains of agriculture, agro-industry, food security and well-being, and the sustainable use and conservation of biodiversity.

The Dialogue helped to forge links between community-level sustainability practitioners and the scientific and policy communities. It helped strengthen South-North collaboration for sustainability.

It has provided the scientific leadership of TWI2050 with sketches for narratives for sustainable pathways that embed African perspectives, concerns and recommendations. The Dialogue also provided the TWI2050 leadership with a valuable method for future stakeholder involvement, and offered guidelines for how to include different actors' visions in the elaboration of sustainable development pathways.

The processes of pan-African dialogue and active knowledge co-generation with the international integrated global assessment community must continue. The SDGC/A plays a key role in supporting both these processes. It is a crystallizing unit in taking the region's SDG planning forward, and in amplifying the sustainability message for action in communities.

The dialogue concluded that there are reasons for optimism, despite the magnitude and pace of transformative change required to reach the SDGs, given that rapid and scalable transitions are possible in the rapidly changing world of the 21st century. For instance, participants noted that banks and subsidies now support small-scale organic farming where before only industrialized, input-intensive agriculture received support. The sustainability agenda is changing face, seen increasingly as the framing for social-economic development, and engaging all stakeholders, from citizens to businesses and policy makers. The bigger framing of social and economic development in the context of the biosphere can give the paradigm change that is needed for shared pathways of sustainable development into the future.

Box 2: About the Dialogue

THE AFRICAN DIALOGUE on The World in 2050 was organized jointly by the Sustainable Development Goals Centre for Africa and the Stockholm Resilience Centre at Stockholm University, supported by the Swedish International Development Cooperation Agency through SwedBio at Stockholm Resilience Centre.

About 64 participants from 12 countries took part in the African Dialogue. The following people steered the sub-theme discussion groups:

Sub-theme Discussion Group	**1: Values and social-ecological resilience**	**2: The resilience of Afri-ca's life support systems**	**3: Governance of inclusive, resilient agriculture**
Chair	**Siraje Kaaya** (University of Technology and Arts Byumba)	**Amadou Kanouté** (CICODEV)	**George Oduor** (Centre for Biosciences International – CABI)
Resource person	**Sarah Cornell** (SRC)	**Philip Osano** (African Centre for Technology Studies)	**Julia Leininger** (Deutsches Institut für Entwicklungspolitik)
Rapporteurs	**Charles Karangwa** (IUCN) **Maylat Mesfin** (SDGC/A)	**Thomas Dubois** (World Vegetable Centre) **Lina Henao** (SDGC/A)	**Jane Mutune** (Wangari Maathai Institute, University of Nairobi) **Donald Ndahiro** (SDGC/A).

The Dialogue broadened and enhanced a shared understanding of Africa's agriculture and agrobiodiversity as an important opportunity for sustainable development. This understanding is deepened in the full report of the African Dialogue on the World in 2050 (published January 2018, available from SRC and SDGC/A).

MORE INFORMATION about SwedBio's multi-actor dialogue methodology is available here: http://swed.bio/reports/report/the-biggest-single-opportunity-we-have-is-dialogue

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